

## Knowledge and Status of Hepatitis B among the Doctors at a Tertiary Care Hospital

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### ABSTRACT

**Aim:** To access the knowledge of transmission and status of hepatitis B vaccination among the doctors at a tertiary care hospital.

**Study Design:** A cross sectional study.

**Place of study:** Services Hospital, Lahore.

**Methods:** One hundred thirty two (132) doctors from various departments were selected by non-probability convenient sampling technique. They were given a self-administered questionnaire after taking verbal consent.

**Results:** Among 132 doctors, who responded to questionnaire, the mean age of all the subjects was 34.11 years with the standard deviation of 9.26 years. The range was 22 to 56 years of both sexes. The majority of doctors (65%) that participated in the study were between the ages of 21-35 years. Majority of the subjects were Graduates. Majority of the Subjects (88%) answered that there are three doses of vaccine. Almost all the doctors were aware of different modes of transmission of HBV infection. Most of subjects answered that they themselves, their spouse and children are vaccinated.

**Conclusion:** Our study revealed that doctors were well aware of HBV infection than other population.

**Keywords:** Hepatitis B, transmission, doctors

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### INTRODUCTION

Hepatitis B is one of the major diseases of mankind and is a serious global public health problem. Of the 2 billion people who have been infected with the hepatitis B virus (HBV), more than 350 million have chronic (lifelong) infections<sup>1</sup>. In Pakistan the carrier rate is 10–15% in adult and 5% in children up to 5 years of age<sup>2</sup>. Hepatitis B infection is endemic in Pakistan with 22.48% cases of acute hepatitis in children. Up to 60% of patients with hepatitis were found to be HBV seropositive in Pakistan<sup>3</sup>. Approximated 14-16 million people are infected with HBV each year in the South East Asian Region. Hepatitis B surface antigen positivity of the general population of Middle East is 1.8%. In Pakistan, the prevalence of HBV ranges from 2.28 - 5.6%. Positivity of HBsAg was found to be 2.21 % in volunteer donors<sup>4</sup>. In a study conducted in Hazara Division, there were 30.35% positive for HBsAg and this was more in males (73.43%) and less in females (26.56%) among all patients suffering from chronic liver disease<sup>5</sup>. In Pakistan, 3% of normal individuals of Karachi were positive for HBsAg. HBsAg positivity has been noted to be 1.07 % in Iran and 1.08% in

U.A.E. In Pakistan, 10 % of general population and 8% of pregnant females were reported to be carriers of HbsAg<sup>6</sup>.

Based on the different HBsAg carrier rates, countries of the region can be divided into three epidemiological patterns. The Type I is characterized by a low HBsAg carrier rate of 0.9 to 1.0 percent. In the second pattern (Type II) carrier rate is high in the general population (5 to 7%). In type III carrier rate is very high and ranges from 9 to 12 percent. The UK and the USA have a low carrier rate (0.5%) but it rises to 10-15% in parts of Africa, middle and the Far East. In Pakistan 10% of general population and 8% of pregnant females are reported to be carriers of HbsAg<sup>7</sup>.

Hepatitis B is essentially a blood borne infection. It is transmitted by Injecting drug, transfusion of infectious blood and blood products, dialysis, contaminated syringes and needles, prick of skin, handling of infected blood, surgical and dental procedures, traditional tattooing, ear piercing, ritual circumcision, acupuncture, sharing razors, toothbrushes etc. Spread of infection from HBV carrier mothers to babies can occur.

Diagnosis is usually made on Screening of HbsAg and by ELISA. Important marker for the disease is HbeAg, which show disease infectivity and ongoing liver injury.

Hepatitis B is preventable disease. Although the vaccine will not cure chronic hepatitis, it is 95%

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effective in preventing chronic infections from developing, and is the first vaccine against a major human cancer. In 1991, the World Health Organization called for all children to receive the hepatitis B vaccine, and 116 countries have added this vaccine to their routine immunization programs. The vaccine is given in three doses at 0, 1 and 6 months. An effective antibody response is attained after three doses in 95 percent of vaccines.

The objectives of the study were to assess the knowledge of hepatitis B infection among doctors of Services Hospital, Lahore, to assess the knowledge about different modes of transmission of hepatitis B infection among doctors and to know about the vaccination status of the doctors, their spouse and children.

**METHODOLOGY**

This was a descriptive cross sectional study. Study population was doctors working in various departments of Services Hospital, Lahore. Sampling technique was non-probability convenient sampling. Study tool was a preformed structured questionnaire. All the data collected was analyzed in a computer based program SPSS-17 and different tables, results and calculations were made accordingly.

**RESULTS**

Knowledge about Mode of Transmission among subjects

Mode of transmission	Male	Female	Total
Contaminated Syringes/ instruments	96 (98.96%)	35 (100%)	131 (99%)
Blood Transfusion	97 (100%)	35 (100%)	132 (100%)
Contaminated water / food	24 (24.76%)	10 (28.57%)	34 (25.80%)
From Mother to Child	96 (98.96%)	34 (97.14%)	130 (98.50%)
Contaminated Blade/Ear piercing	87 (89.69%)	32 (91.42%)	119 (90.20%)
Sexual Contact	78 (80.41%)	34 (97.14%)	112 (84.80%)
By direct contact like Touching , Kissing etc	23 (23.71%)	11 (31.42%)	34 (25.80%)
By Respiration	1 (1.03%)	2 (5.71%)	3 (2%)
By sharing Drinking Glass , spoon etc	21 (21.64%)	10 (28.57%)	31 (23.50%)
By sharing the Nail-cutter	70 (72.16%)	22 (62.85%)	92 (69.70%)

Educational Status of Subjects

Education	Male	Female	Total
Graduate	45(46.39%)	30(85.71%)	75(56.8%)
Posgraduate	52(53.61%)	5(14.29%)	57(43.2%)
Total	97(73.5%)	35(26.5%)	132(100%)

Knowledge about Prevention of Hepatitis B among Subjects

Type of Prevention	Male	Female	Total
Vaccine	95(97.93%)	31(88.57%)	126(95.45%)
Vaccine & drug	2(2.07%)	4(11.43%)	6(4.55%)
Total	97(73.5%)	38(26.5%)	132(100%)

Vaccination Status of Subjects

Vaccine status complete	Males Total=97 Married=61, Unmarried=36	Females Total=35 Married=25, Unmarried=1	Total n=132 Married=86, Unmarried=46
Self	92(94.84%)	29(82.85%)	121(91.66%)
Spouse	61(100%)	15(60%)	76(88.37%)
Children	59(96.72%)	16(60%)	74(86.04%)

**DISCUSSION**

Almost 59% of the doctors of SZMC/H were included irrespective of their age and gender. However, some of the doctors were reluctant to give the desired information, so they were excluded. Out of all doctors, the majority (65%) that participated in the study was between the ages of 21-35 years and among these 65% were males. Male to female ratio in the study was 3:1 as this is the situation in whole of the institutions of Pakistan. Most of the females were working as women medical officers and post graduate residents. Same happened in different studies conducted in Pakistan<sup>8</sup>. Almost 60% of the subjects included in the study were graduate and out of them 66% were males and out of total postgraduates (n=57), 91% were males and 5 doctors (9%) having post graduation were females. Most of the subjects were married (65.15%) as compared to unmarried (34.85%). Among those who were married, the percentage of females was more i.e. 71.42% as compared to males 68.88%. The majority of the subjects (56.8%) were graduates. It was also seen that most of the males were post-graduate (53.61%).

Almost all the doctors knew the cause of hepatitis B infection as a virus but in a study conducted in Karachi among vaccinators showed that only 64% were aware about the exact cause of hepatitis B infection<sup>9</sup>. In the present study, most of the subjects (95.45%) told that the hepatitis B can be prevented by the vaccines only and there is no role of drugs in its prevention. In a study done among health care workers in a tertiary care hospital, 78% told that hepatitis B can be prevented by vaccination. This was only due to being a doctor and their results were comparable with the study done in Karachi on vaccinators, where only 64% answered correctly about the cause of hepatitis B infection. Out of all vaccinators, only 28% were graduate<sup>9</sup>. The majority of the Subjects (88%) answered that doses of vaccine are three but few (7%) told that there are four doses of vaccine for prevention of disease.

Regarding the mode of transmission, 100% of the subjects were in favor of its transmission by the infected blood because. The vast majority of subjects (99%) told about its transmission through contaminated syringes and instruments from mother to child during the delivery because if the mother is infected, HBV can be transmitted via blood through placenta. 90.20% people told that it can be transmitted by the contaminated blades and ear piercing. 84.80% people were of the view about its transmission during the sexual contact via secretions. 69.70% of the subjects were in favor of its transmission by the use of nail cutter contaminated blood of infected person. 25.80% of the doctors told that it can be transmitted by kissing, touching, hand shaking etc. and the contaminated water/food. Regarding its spread by the sharing of drinking glass/spoon via saliva, 23.50% of the subjects were in the favor of HBV transmitted by all the body secretions. 2% of the people told about its spread through the respiration via respirator droplets. The knowledge about mode of transmission of HBV infection among doctors was relatively better than other health workers who told that HBV infection can be transmitted by contaminated blood about 47%, 50% by contaminated needles and syringes, 22% by sexual contact etc. This was due to higher education level of doctors.

The hepatitis B vaccination status among doctors in the present study was 91.66% while vaccination status of doctors in another study was 92.4% and this result compares our results<sup>9, 10, 11</sup>. The vaccination status was more in our study as compared to the study done in nursing assistants i.e. 18.9% subjects were vaccinated<sup>11</sup>. Another study conducted in Karachi 52% nurses were vaccinated, 33.6% was not vaccinated while 14.4% were partially vaccinated. Only 27.6% of spouse of health care workers were vaccinated against hepatitis B infection<sup>12</sup>. A study from Rawalpindi revealed that 49% of health care workers received HBV vaccine<sup>13</sup>. This difference is significant and is due to higher education level of doctors ( $p < 0.05$ ).

Regarding vaccination status, 94.84% males and 82.85% of females were answered that they are completely vaccinated. Among the subjects who were married, 100% males and 60% females told that they got vaccinated their spouses. Almost 97% male doctors told that they have got complete vaccination of their children while 60% of female doctors told that they have got complete vaccination of their spouse and children. In another study about 27.6% of spouse of health care workers were vaccinated against hepatitis B infection<sup>12</sup>. The reasons for non- vaccination among Health Care Workers (HCW) may be the high cost of vaccine, lack of education / knowledge and belief that they are not at increased risk. Higher prevalence of HBsAg among HCWs in local studies may also be explained on this basis<sup>14</sup>. Most HCWs however did not know all modes of transmission. In a study conducted in female college students of Karachi, awareness regarding modes of spread of hepatitis B and C was found low. Hence it is urgently required to speed up the health intervention program both for health care workers as well as general population<sup>15, 16</sup>.

## CONCLUSION

Hepatitis B viral infection is an emerging health problem worldwide and a common infection in Pakistan. Awareness about the disease is necessary in the prevention and control of the disease and particularly among the health care workers.

Although most of doctors had complete awareness about the mode of transmission of HBV infection still some of doctors were lacking this knowledge. We concluded that this might be due to their lack of interest to get recent knowledge and studies on HBV infection.

## SUGGESTIONS

1. Awareness campaigns should be launched through media, pamphlets or conferences about HBV infection, its mode of transmission and its prevention.
2. A policy is needed to ensure that every doctor is completely vaccinated against hepatitis B when he/she enters professional practice.
3. A standard system of check and balance should be enforced in all the government hospitals for confirming that safety practices are being followed by the doctors as well as all other health care workers of the hospital.
4. Antiseptic lotions, safety boxes, needle cutters etc should be provided in the wards and hospital administration should ensure their easy access and periodic replacement.
5. Health education and regular campaigns should be launched informing the doctors of the risk of acquiring infections from patients and the need for prompt action.

## REFERENCES

1. Hepatitis B. fact sheet No. 204. Geneva, World Health Organization, 2006. <http://www.who.int/mediacenter/factsheets/fs204/en/print.html>.
2. Malik IA., Tariq WVZ, Viral hepatitis in Pakistan (Editorial) PJP 1993;4 : 15-8.
3. Khan Ts, Rizvi F. Hepatitis B sero-positivity among chronic liver disease patients in Hazara Division Pakistan, J Pak Med Assoc. 1999 Dec; 49 (12) : 301-5.
4. Mujeeb SA, Aamir K, Mehmood K. seroprevalence of HBV, HCV and HIV infections among college going first time volunteer blood donors. J Pak Med assoc 2000; 50: 269-70.
5. Khokhar N, Gill M.L, and Malik GJ. General seroprevalence of Hepatitis C and Hepatitis B virus infections in Population: JCPSP 2004, Vol. 14 (9): 534-6.

6. Malik IA, Legters LG, Luqman M, Ahmad A, Qamar MA, Akhter KAK, et al. The serological markers of hepatitis A and B in healthy population in Northern Pakistan. JPMA 1988; 38: 69-72.
7. Ahmad A, Khichi GQK and Rehman A. Hepatitis B markers; its transmission in newborns from mothers. Professional Med J Jun 2007; 14 (2): 307-11.
8. Khokhar N, Gill M.L, and Alam A.Y. Treatment of chronic hepatitis B with lamivudine JCPSP 2005, vol. 15(2): 78-80.
9. Shah S, Nisar N, Qadri M.H. Knowledge regarding hepatitis B among EPI vaccinators working in district South Karachi. Pak J Med Sci. July - September 2007 Vol. 23 No. 4 538-41.
10. Memon MS, Ansari S, Nizamani R, khatri NK, Mirza MA and Jaffri W. Hepatitis B vaccination status in health care workers of two university Hospitals. JLUMHS May – august 2007.
11. Zahoorullah, akhtar T. HBV Vaccination in the high risk laboratory workers in three major hospitals of Peshawar. Pak J Med Res. Vol 42 No. 2, 2003.
12. Memon AR, Sheikh MA, Afsar S, Zubairi BF, Qadeer R, Baloch I, Hepatitis B Vaccination Status and Knowledge, Attitude, Practices of Health Care Workers (HCWs) Regarding Hepatitis B and C in a Tertiary Care Setting of Karachi. Infectious Diseases journal of Pakistan. Vol 16 issue 04 Oct-Dec. 2007 105-7.
13. Nasir K, Khan KA, Kadri WM, Salim S, Tufail K, Sheikh HZ, et al .Hepatitis B vaccination among health. Care workers and students of a Medical college. J Pak Med Assoc 2000; 50: 239-43.
14. Aziz S, Memon A, Tily HI, Rasheed K, Jehangir K, Quraishy MS. Prevalence of HIV, hepatitis B and C amongst health workers of Civil Hospital, Karachi. J Pak Med Assoc 2006; 56(1 suppl 1): S48-50.
15. Khuwaja AK, Qureshi R, Fatmi Z. Knowledge about hepatitis B and C among patients attending family medicine clinics in Karachi. East Mediterr Health J. 2002 Nov; 8(6):787-93.
16. Sabeena Jalal Khan, Qudsia Anjum, Najib Ullah Khan et al. Awareness about common diseases in selected female college students of Karachi, 2005 May; 55 (5):195-8.